LakeCounty
Health Department and
Community Health Center

# Myth: MMR Vaccine Causes Autism

**Does MMR vaccine cause Autism?**
No. There is no valid evidence that it does cause autism and a lot of evidence that it does not cause autism.

**How did this myth get started?**
The concern originated from a 1998 study by a researcher named Andrew Wakefield. His study, published in *The Lancet* journal, described eight children who developed autism and intestinal problems after receiving the MMR vaccine. Wakefield had a vested interest in the study's outcome because he was paid by a British attorney to prove that MMR vaccine caused autism. The Lancet eventually stated that Wakefield's study was unethical. They later retracted the article because it was proven that his data was, in fact, fraudulent.

**What does the evidence show?**
It is important to note that the Wakefield's poorly designed study only investigated 12 children, 8 with autism and 4 without. Since publication of the Wakefield research, twenty-five (25) additional studies have found NO connection between MMR vaccine and autism. According to the Institute of Medicine, three of the epidemiological studies that have been performed involved more than 100,000 children each. Hundreds of thousands of children with autism were compared to hundreds of thousands of children without autism, and no evidence could be found that MMR or thimerosal had any relationship to autism.

**Why do some parents think that their child became autistic after getting a vaccine?**
Signs of autism are often present in children long before their families notice them. An old family video or a recount from a friend may sometimes indicate that the signs of autism were present long before the parents noticed them. While developmental specialists can detect the signs of autism in very young children, parents often do not notice them until 18 to 24 months of age. By this age, children have received most of their childhood vaccines. The fact that the child may have been vaccinated just prior to diagnosis with autism is a coincidence.

**What does cause autism?**
There are many likely connections, but autism is very complex so we don't know for sure what all the possible links are. First, genetics plays a major role. Studies in twins reveal this important connection. Identical twins share 100% of their genes in common, whereas fraternal twins and other siblings, share only 50% of their genes in common. If autism had a genetic component, it would be expected that identical twins would be more likely to be autistic than would fraternal twins. In fact, when one identical twin is autistic, there is up to a 96& chance that the twin will be affected, too. But in fraternal twins, when one twin is affected, there is only a 1 out of 7 chance at most that the other will be affected. In addition, researchers have found abnormalities on specific genes in some children with autism. Secondly, one study showed that fathers over the age of 40 years old have a six times greater risk of having a child with autism than fathers who are under 30 years old. Third, hormonal and brain development factors in the infant or toddler certainly play a role. Fourth, prematurity is a known factor. Finally, there are theories regarding environmental exposures that occure at or shortly after conception.

**Why has the number of children with autism increased over the past few decades?**
The diagnostic criteria for autism has changed, so providers are making more diagnoses. In the past, autistic children were often diagnosed as having a learning disability or mental retardation. Now that providers understand the disease better and have improved diagnostic criteria, more of those children are being diagnosed as autistic, which fewer are being diagnosed as having a learning disability or mental retardation.

**If I am still concerned, should I wait to vaccinate my baby?**
No. The evidence shows that vaccines do not cause autism. Delaying or withholding the MMR or other vaccines will not prevent autism. It will only increase the time that your child is at risk for those vaccine-preventable illnesses. A choice not to vaccinate is a risky choice.

**Where can I get more information?**
http://www.cdc.gov/vaccinesafety/index.html
http://www.chop.edu/service/vaccine-education-center
http://www.vaccineinformation.org/
http://www.healthychildren.org/english/health-issues/vaccine-preventable-diseases/Pages/default.aspx